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ABSTRACT

This manual deals with three areas of communication. The first section reviews problems of communication within an organization or task analysis team that can hinder effectiveness and gives suggestions for improving the quality of intra-organization communication. The second chapter stresses the importance of active listening, makes recommendations for achieving active listening, considers testing for understanding, and discusses problems in active listening. The third section presents guidelines on "How to Write Clearly," including: how to outline, the rough draft, the terminal section, avoiding unnecessary words, avoiding the fault of complexity in technical writing, use of short sentences, improving readability, testing for readability, using active verbs, and selecting familiar words. (LL)

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COMMUNICATIONS IN TASK ANALYSIS

Training Manual IV

Arthur H. Kuriloff and Dale Yoder

Technical Report No. 8

EVALUATION OF THE MARINE CORPS TASK ANALYSIS PROGRAM

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CHAPTER 1

COMMUNICATION AND ORGANIZATIONAL PERFORMANCE

ORGANIZATIONAL PERFORMANCE

- The performance of an organization depends directly on the quality of its communications, upwards, downwards, and sideways.
- Communication is a complex process involving:
  - Transmission of information from sender to receiver.
  - Reception and comprehension of this material by the receiver.
  - Acceptance or rejection by the receiver.
    - o Often the term "communication" is used as though the message transmitted is understood and accepted; this may not be the case.
  - Complicated nature of the material to be transmitted.
    - o Factual or intellectual data, as information, problems, production goals, suggestions, ideas, and policies.
    - o Motivational or emotional material, as environmental climate, attitudes, reactions, feelings of appreciation or rejection, goals of cooperation and loyalty.
- The communication process functions more effectively as the organization develops an environment of openness and trust. Studies and research in industry show conclusively that lack of trust is an important factor in throttling upward communication particularly--in keeping subordinates from communicating with their superiors.[1]

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1. Likert, Rensis, NEW PATTERNS OF MANAGEMENT, New York: McGraw-Hill Book Co., 1961, ch. 4.

- This research shows that only 10% of managers and supervisors understand the vital importance of upward communication in improving organizational effectiveness.
  - Most managements studied by the New York State Dept. of Labor rely only on the <u>suggestion</u> box and the <u>open-door policy</u> for receiving communications from their workers.
  - Suggestion boxes have seldom produced meritorious ideas; the open-door is more of a fiction than a fact--few employees are willing to enter the boss's office to tell him that his operation can be improved, that his handling of his job is inefficient, or that his behavior is viewed by his people as unfair or unreasonable.
- Yet managers too often cannot truly understand the problems that exist in their organizations without openly given, complete information from their subordinates.
  - Under conventional management practice subordinates tend to <u>filter</u> information that they give the boss.
  - Subordinates quickly size up their boss; they pass along information that they think will please him.
  - They withhold information that they think will displease him
  - The worse the situation, the less they tell him.
- Research studies show that communication between managers, supervisors, and their subordinates is of such inadequacy that the subordinates do not understand clearly what their

jobs are, or what is expected of them.[2]

- Gaps in understanding include the following:
  - o Superiors often think that planning and problem solving are part of the subordinate's job; subordinates often do not think so.
  - o Subordinates usually believe that their superior should decide and plan; they should carry out these plans.
  - o Subordinates usually avoid telling their superiors about obstacles in their jobs.
  - o When they do, superiors fail to listen or misinterpret what they hear.
  - o Sometimes subordinates are wrong in their appraisal of the character of the obstacles.

- These factors point to the importance of open, complete upward communication. Upward communication has been shown to be more important in opening managers' eyes to organizational problems than downward communication.
- Some possibilities for improving communication in the organization:
  - Managers should deliberately develop their awareness of the need for continuing interchange among themselves, their bosses, and their subordinates.
  - Managers can exercise more influence on what goes on in

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2. Likert, Rensis, op. cit., p. 46.

- their organizations or groups by consciously adopting more open methods of leadership.
- Managers can develop more trust and more loyalty among their men by learning to improve their own upward communication with their bosses. As men see their manager representing the interests of their group more effectively, they become more cohesive and place more reliance on his authority.
- As managers serve more as trainers and teachers and supporters and avoid making evaluations of their men and their mens' performance, their men become more open in bringing problems and failures to their attention.

• The importance of developing the technique of feedback in improving communication cannot be overemphasized.

- Feedback in direct communication with another means simply testing a message that is received by repeating it back to the sender in your own words until he and you are agreed that the meaning he intends is conveyed truly.
- Feedback should be used throughout organizations for finding out whether performance is meeting that desired. Feedback requires a continual flow of information as to what is going on, how it measures against plans and programs.
- Feedback can be employed to improve most of the variables of organization: organizational structure, objectives, management practices and behavior, and climate or environment. In terms of outputs, feedback can help to improve

production, lower costs, minimize waste, reduce absenteeism, turnover, and grievances.

- Feedback requires that management develop ways of listening to its people, assessing situations, paying attention to feelings as well as ideas--in a word, to be aware of the signals coming back from all elements of the organization.

IMPROVING COMMUNICATION

SECTION 1: COMMUNICATION AND PEOPLE

- Communication is motivated behavior, both for the sender and the receiver.
  - Communication in organizations, however random it may sometimes seem, is governed by rules that have their roots in what people want and how they try to get what they want.
    - o Subordinates, as research shows, regularly withhold information from their superiors about problems they have in their work.[3]
    - o Superiors actually communicate with subordinates less frequently than they think they do.
    - o Superiors who are receptive to communication have more communication attempts directed towards them by their subordinates.
- It is a common mistake to think that many organizational ailments can be cured by large doses of communication.

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3. Likert, Rensis, NEW PATTERNS OF MANAGEMENT, New York: McGraw-Hill Book Co., 1961, ch. 4.

- Many management information programs are ineffective because they are limited to the formal communication system over which management has somewhat direct control.
  - o In these cases emphasis is on <u>downward communication</u> with little recognition of the need for upward flow of information and expressions of personal feelings by members of the organization.
- Excessive communication, like deficient communication, is often a sign of basic organizational trouble.
  - o Too much or too little communication may indicate a serious condition.
  - o Just as individuals in trouble often clam up or spout in a furious exchange of words, so an organization in trouble may spew out a flood of managerial directives, or resort to the dead silent withholding of information, or a disruptive demand for more information than reasonably can be produced.

- The prevalence of failure in many management information systems should be of vital importance to managers since the organization and all its members, including the managers themselves, have their fates determined in large part by the effectiveness of the <u>information-flow system</u>.
  - All members of the organization should understand that their lives are affected by the adequacy or failure of the communication system of which they are a part.

- Psychological studies show that people in organizations want:
  - o To know what is going on.
  - o To introduce information into the communication system themselves.
  - o To get with certainty the data that they need to guide their own behavior.[4]
- People, in other words, want to <u>understand</u> and <u>feel</u> the environment in which they work, so they can respond to it with appropriate behavior.

SECTION 2: AVOIDING DIFFICULTIES IN COMMUNICATING[5]

- Managerial problems of miscommunication usually occur in the <u>encoding</u> and <u>decoding</u> phases of message transmission; troubles usually stem from certain faulty (and often unconsciously held) assumptions, or premises, of the sender and receiver.
- <u>Inference</u> and <u>observations</u> are often confused.

  <u>Example</u>: We see a man wearing a red tie.

  We can say: "That man is wearing a red tie."

  <u>This is a statement of observation</u>.

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4. Haire, Mason, PSYCHOLOGY IN MANAGEMENT, New York: The McGraw-Hill Book Co., 1956, ch. 4.
5. Haney, William V., COMMUNICATIONS--PATTERNS AND INCIDENTS, Irwin, Richard D., Homewood, Ill: 1960. The material in Section 2 is essentially an outline of the major points given in this book. The examples given in this section are drawn from this book.

Suppose we say: "That man bought the red tie he is wearing." Unless we have actually seen him buy the tie, our statement is a statement of inference. We inferred that he bought the tie because (1) he is wearing it; (2) he appears to be the kind of man who would select his own ties. We may be right, but we may be wrong. He may have been given the tie. Perhaps he found it. Or he may have borrowed it from his roommate. In any event, the statement is inferential.

- Statements of observation and statements of inference are often difficult to tell apart.

o To avoid confusion between inferences and observations:

. We must be aware when we are inferring, rather than observing.

. We must calculate the degree of probability that our inferences are correct.

. Our usual difficulty with guesses, hunches, predictions, assumptions--that is, inferences--is that we seldom get past the first step; we do not discriminate between statements of inference and statements of observation.

o We cannot avoid making inferences in our daily work; the important points are to be aware that we are making them and to calculate the risk involved in making them.

- By-passing, which often distorts communication, occurs when the sender and receiver use the same words but attribute different meanings to them.

- In by-passing, the sender and receiver <u>believe they are in agreement</u> even though they are not.

  <u>Example</u>: (Same words, different things.) A machinist phoned for an ornamental tree from the nursery. "What caliper tree do you want?", asked the nurseryman. "About six or seven inches", said the machinist. He was annoyed when the nurseryman delivered a sapling two inches in diameter. To a machinist a caliper measures diameter, but to a nurseryman a caliper measures circumference. Same word but different meaning to each person.

- Occasionally the reverse may occur: The communicants are in agreement, but believe they are not. (Different words, same things.) <u>Example</u>: Conversation between Pete, an Illinois boy, and a soda fountain clerk in Massachusetts, where Pete was visiting:

  Pete: "I'd like some pop."

  Clerk: "What?"

  Clerk: "I don't know what you are talking about."

  Pete: "You never heard of pop?"

  Clerk: "No, and you haven't either."

  Pete: "Listen, it's that stuff that comes out of a bottle, you shake it up and it fizzes out!"

  Clerk: "Oh! You mean a soda!"

  Pete: "No! I don't want a soda." (A soda where Pete lives is made with ice cream, flavoring, and soda water.)

Clerk: "Well, then, what do you want?"

Pete: "Never mind! You wouldn't have it anyway!"

o These techniques can help to decrease by-passing:

. Be <u>person-minded</u>, not <u>word-minded</u>.

. Ask and repeat back in your own words until there is agreement on the meaning.

. Be aware of contexts, that is, the situation as a whole, the background that is relevant to the problem.

• <u>Allness</u> is a fault in communication that implies: (1) it is possible to know and say everything about something, and (2) what we are saying includes all that is important about the subject.

- It is impossible to know and say everything about anything or anybody.
- Allness is a common fault that often leads us to talk or write as if our viewpoint is the only correct one.
- To avoid the trap of <u>allness</u> we must recognize that we can focus only on some detail or portion of the subject--that is, we must remember that we are <u>abstracting</u> from an <u>infinite number of possibilities</u> those points that are important to our purpose.

o The man who says: "My mind is made up; don't confuse me with facts" behaves as if he has retreated behind a wall of allness. He knows it all, thus making it impossible for him to consider elements of the problem.

o Retreating behind the wall of allness leads to the faults of judging the whole by its parts and intolerance of the viewpoints of others.

- To reduce allness in our communications we should:

o Develop humility; we must recognize that we can never know or say everything about anything.

o Be wary of building an "all wall." We should not close off our capacity to learn by feeling too assured or too certain about anything.

o Remember that however much we know about anything there is always more.

o Remember that when we communicate we are always abstracting, that is, paying attention to some details while neglecting others.

. Recognize that the part we are dealing with may not truly represent the whole. We should not judge a man by his clothes, a book by its cover, or a company by the rudeness of one of its salesmen.

. Recognize that the man we are talking to may not be abstracting the same way we are. We must try to gain the other man's point of view. Here is an extreme example of failure to consider the other man's point of view:

"Tell me," said the blind man, "what is white like?"

"It is like newly fallen snow," replied his

sighted friend.

"Lightweight and damp?"

"No, it is more like paper."

"It rustles then?"

"No, no--it is like an albino rabbit."

"I understand--soft and furry."

Or consider the statement: People can't be trusted. Examine it and ask. All people? Many people? An occasional person? How can the man we are talking with get in tune with our thinking, at the proper level of abstraction, unless we specify?

- Indiscrimination causes failure of communication when we do not recognize differences among the similarities. Example: We often react to policemen, labor leaders, politicians, Blacks, or businessmen as if they were all identical. But people, situations, happenings, and things are unique. We should treat each one of a general classification on its own merits. Thus politician_1 is different from politician_2. We should train ourselves to discriminate.
- Polarization causes faulty communication when we fail to realize that there is usually a middle-ground between black or white alternatives. Most situations can best be related to some shade of gray. In communicating we need to ascertain "how much" or "to what degree" in order to avoid distorting reality.
- The frozen evaluation causes distortion in our communication

when we fail to recognize that people, things, words, and situations change. The company we may have worked for during the last ten years is not the same organization it was ten years ago, one year ago, or even yesterday. We must update our perceptions to keep in touch with reality.

- Inward orientation invites trouble in communication. We distort communication when we proceed on the assumption that the words and ideas in our minds represent truly what goes on in the world around us. Our mental "maps" often do not represent the reality of the territory. We may not be aware that we are dealing with the maps instead of the territory.

- To avoid trouble of this kind we should: (1) recognize that we use words sometimes to "point to" or identify what we are talking about, and (2) realize that words we use often invoke their associative power to generate emotional responses. Unless we consciously strive to select and use words with care we can often produce undesirable responses in the receiver.

Example: A woman in charge of seafood preparation in a large restaurant was called the "fish lady" by her fellow workers. She bitterly resented this name. To her it was a derogatory appelation because of its undesirable associative meanings. She became continually embroiled in angry arguments with her associates and finally threatened to quit. The restaurant manager, discovering the nature

of the problem, formally assigned her the title of "seafood specialist" and insisted that all call her by this title. With the order effectively carried out, the trouble disappeared.

- Blindering produces faulty communication when the definition of the problem leaves out important details. Defining a problem is an act of abstracting. It involves sizing-up, interpreting, perceiving, and appraising. But a definition is an abstraction, a leaving-out of details. When we are unaware of leaving out important details we become blindered. We have tunnel vision. We have unconsciously narrowed our field of perception. Therefore we have restricted our attack on the problem. Perhaps we have missed the chance to solve it.

  Correctives: (1) We should remember that definitions inevitably involve the neglect of details, often critical ones, and (2) we should remember to remove our blinders.

- Differing perceptions of the same event often trigger exasperating arguments. When this happens, we fail to see that we are quarreling about our subjective evaluations rather than about objective, external realities.

  Corrective: We should not try to discourage differing perceptions but we should accept their existence and take them into account when communicating with others.

- Abrupt, reflex-like responses, particularly those that display anger or fear, are sometimes destructive of the communication

process.

Corrective: We can often avoid the undesirable response of the hot or frightened retort by developing the habit of taking a moment (counting to ten) to evaluate before responding.

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Abramson, Bertram N. and Kennedy, Robert D., MANAGING SMALL PROJECTS, AND WORDS, first supplement to MANAGING SMALL PROJECTS, Redondo Beach, California: TRW Systems Group, TRW, Inc., 1969.

The purpose of this guide is to give the manager of the small project (3-12 month duration, $5,000 to $100,000 dollar amount, the project team in daily or at most weekly communication on a personal basis) some simple rules, reminders, and suggestions that will help him get his job done right, on time, and within budget. The information presented in this guide and its supplement should prove directly applicable to TA analysis, in both improving communications and in managing the TA projects.

Bass, Bernard M., ORGANIZATIONAL PSYCHOLOGY, Boston: Allyn and Bacon, Inc., 1965.

In chapter 8 of this text, research findings on communication in organizations are summarized and suggestions are made for improving the quality of communication between people in organizational groups.

Faburn, Don, COMMUNICATIONS, Beverly Hills, California: Glencoe Press, 1971.

This is a charmingly illustrated paperback, notebook size, that deals with the semantic problems of communication. It is designed especially for use in groups and is an excellent training vehicle with which to start teaching communication.

Fleishman, Alfred and Meyer, William D., TROUBLED TALK, San Francisco: International Society for General Semantics, 1973.

Presenting a "nuts and bolts" explanation of how we get so fouled-up in our communication, this booklet presents some practical suggestions for what we can do to improve the clarity and effectiveness of our communication.

Haney, William V., COMMUNICATIONS AND ORGANIZATIONAL BEHAVIOR, Homewood, Illinois: Richard D. Irwin, Inc., 1967.

This is an excellent reference treating communication principles as they apply to the everyday problems of communication within organizations.

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Hayakawa, S.I., LANGUAGE IN THOUGHT AND ACTION, New York: Harcourt, Brace & World, Inc., 1964.

This is a good introductory book to the whole subject of communication, oral and written. It tells how important words are and why they sometimes trip us up and how language influences our thinking and behavior.

Leavitt, Harold J., MANAGERIAL PSYCHOLOGY, 3rd. edition, Chicago: The University of Chicago Press, 1972, ch. 18 and 19.

These two chapters treat communication in groups. Research on the effect on transmission and reception of information of different network patterns resulting from various group structures and reporting relationships is discussed. Recommendations are made for relaying messages efficiently.

This text is simply and clearly written by an eminent industrial psychologist. It has much practical data to offer in the field of managerial psychology besides that dealing with communication.

Lee, Irving J., HOW TO TALK WITH PEOPLE, New York: Harper & Brothers, Publishers, 1952.

This is a particularly useful reference for those whose jobs require them to lead groups to decisions.

CHAPTER II

ACTIVE LISTENING

The term active listening implies that the listener makes a special effort and devotes energy to the communication process. Active listening is different from hearing. Hearing is a physical phenomenon involving sound waves impinging on the ear and nervous system of the person. Listening defines a complex process of absorbing, judging, and acting upon the information carried by both sound waves and the supporting emphasis of facial expression, tone, and body set. Listening requires the effort to grasp not only facts, but also feelings.

Active listening can be founded therefore only on attitudes in the listener that convey genuine respect for the speaker--and for the speaker's capacity for self-correction. This means that the listener can improve the rapport between himself and the respondent, and therefore the openness and clarity of the communication, by honestly practicing active listening.

IMPORTANCE OF ACTIVE LISTENING

The respected psychologist, Carl R. Rogers, points up the importance of active listening in this statement: "Good communication, free communication within or between men is always therapeutic."[1] When a man is listened to sensitively he tends

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1. Rogers, Carl R., Barriers and Gateways to Communication (Co-author, Roethlisberger, F.J.) HARVARD BUSINESS REVIEW, July-August, 1952, p. 28.

to listen to himself. He becomes more open and less afraid of being criticized. The active listener builds a positive relationship with the speaker through active listening. He receives more useful information as rapport develops.

INFLUENCE OF SELF-IMAGE IN ACTIVE LISTENING

Human beings develop a self-image from infancy. We are exposed to all kinds of situations demanding behavioral responses of various kinds. As we are successful in meeting the requirements of these situations we adopt patterns of behavior that evolve for us a picture of ourselves that we carry around in our heads. This self-image is vitally important to us--and anything that threatens it causes us immediately to raise a defensive wall. We protect ourselves from hurt. We reject the message, we don't listen to it, often don't hear it.[2]

The interviewer practicing active listening doesn't threaten the speaker's self-image. The listener must create a non-threatening climate, and this he does by not criticising and not judging the information he is receiving. He must be seen by the speaker as warm, receptive, accepting, and understanding. When the listener realizes that he is being accepted in this fashion he in turn is able to accept what he hears and to decide how to act upon the information. He's then in a position to change, to behave in more realistic fashion, or to become more open and cooperative with the listener.

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2. Leavitt, Harold J., MANAGERIAL PSYCHOLOGY, 3rd ed., Chicago: The University of Chicago Press, 1972, pp. 26-28.

AVOID TELLING THE SPEAKER

When we are in a position of authority too often we try to make a person see things our way. We reason with him, scold, and prod; sometimes we command him to move in a direction that we think is right. What we fail to realize is that we're responding to our own needs to see the world in ways that fit us. We find it hard to accept the idea that the other person may see the world quite differently.

We cannot listen actively to the other until we can rid ourselves of the need we have to influence and direct him to our way of thinking.[3]

When we avoid trying to pressure others to our way of seeing the world we open the way to active listening.

We are frequently asked to give people advice, particularly when we are in positions of authority. Requests for advice are often masked expressions of feelings or needs. If we respond in an active listening mode, we will try to get at the underlying feelings or needs. We'll understand that most people really don't want to be told what to do. Adults usually want to make up their own minds--and, interestingly enough, the way to help them is to listen for the need or feeling beneath the communication. One tested and accepted way to do this is to respond to a request indirectly. Here are some examples of answers that help to open up communication:

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3. Hayakawa, S.I., OVERCOMING COMMUNICATION BARRIERS, Chicago: Industrial Relations Center, University of Chicago, 1957, pp. 9, 10.

Speaker's Question	Listener's Answer
Just whose responsibility is tuning this engine?	You feel that someone is challenging your responsibility on that?
What does the Sergeant expect us to do about those broken down tractors?	You're pretty disgusted with those machines, right?
Don't you think I've got this coding procedure down pat in the last few tries?	Sounds as if you feel you're really on top of it.

Responses framed in this fashion tell the speaker that you've listened to him, but they leave the way open for him to say what's bothering him. This approach encourages thinking with people instead of for or about them. In other words it helps to build rapport and to open channels of communication.

Judgments, advice, and suggestions are almost always perceived as efforts to change the person at whom they're directed. They act as barriers to communication. Besides, giving advice is usually an exercise in futility, as advice is seldom taken. And suggestions are seldom adopted.

RECOMMENDATIONS FOR ACHIEVING ACTIVE LISTENING

Several specific actions can be taken to improve our capability in active listening. We should try to grasp what the speaker is communicating, from his point of view. If we do this honestly to the best of our ability, he would see that we are seriously trying to see the world as he sees it.

- Listen for the total meaning in the message. This includes the two components: content and feeling. Taken together, they give the message its total meaning.
- Respond to feelings in the way that has been indicated above. Our intent should be to help the speaker talk about his feelings.
- Note all cues. This includes the message contained in the words spoken and the less obvious message contained in the side signals: hesitation, emphasis, facial expression, body posture, hand movements, eye movements, and rate of breathing.

When we listen actively we are showing our respect for the speaker. Active listening is the best known form of behavior for opening communication between people. Just as argument begets argument and help begets help, so listening begets listening.

TESTING FOR UNDERSTANDING

One useful device for ensuring the accuracy of communication, particularly in stressful situations, is to adopt the following ground rule: Before either party can make a point, he must restate the position or previous point of the other. The restatement must be accurate enough to satisfy the other before any further discussion is permitted. This technique has been found

particularly useful in resolving arguments and in taking the sting out of difficult emotional situations.[4]

PROBLEMS IN ACTIVE LISTENING

Active listening is a skill hard to acquire; it takes steady practice. The achievement of skill in active listening may require changes in our basic attitudes, which takes the courage to assume the risk of changing our ways of looking at the world. Some other problems with which we may have to contend are: expressions of hostility; out-of-place expressions; accepting positive feelings; treating emotional danger signals; defensiveness; resentment of opposition; and personality clashes.

Personal Risk

If we can sense deeply the feelings of another, understand his world as he sees it, that is, truly empathize with him, we risk being changed ourselves. It is threatening to our self-concept to face giving up what we have long believed and to think in someone else's terms.[5] It takes inner security and courage to accept the risk of understanding another.

Hostile Expressions

Those who practice active listening will occasionally

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4. Rogers, Carl R., op. cit., pp. 29-32.
5. Sullivan, Harry Stack, THE PSYCHIATRIC INTERVIEW, New York: W.W. Norton & Co., 1954, p. 218.

be forced to listen to hostile or negative expressions. These are hard to listen to calmly. The normal impulse of the inexperienced interviewer is to strike back or to defend one's self. Yet the practice of active listening requires not striking back or defending one's self.

We usually try to keep the peace out of fear of triggering disturbing consequences. But the real damage to the relationship is done by denial and suppression of negative feelings. The listener's procedure should follow that given previously for uncovering feelings and opening up communication (see Avoid Telling the Speaker, page20).

Out-or-Place Expressions

Occasionally the interviewer will be subject to out-of-place expressions. These may take the form of an admission of weakness or incompetence by the speaker. Expressions of this kind tend to block communication and must be dealt with carefully in the mode described above. For example, it is difficult to listen with empathy to a man who is supposed to "take charge" of a situation admit to feelings of failure, because in our society all men who have arrived at positions of leadership are supposed to be able to demonstrate "command presence" and to take charge. Expressions of this kind should be dealt with in the mode described under Avoid Telling the Speaker (page20).

EMOTIONAL DANGER SIGNALS

The interviewer's emotions sometimes create barriers to

active listening. Emotions stirred up in us when listening often cause us to become our own worst enemies. When we become distressed or angry we are involved very personally in the situation--we are responding to needs of our own. When we respond to our own needs we cannot very well respond to the needs of the speaker. Three main danger signals warning us that our emotions may be interfering with our active listening are defensiveness, resentment of opposition, and clashes of personality.

Defensiveness

Defensiveness shows when we try very hard to make another see our point, when we stress it strongly. In this circumstance we tend to be vocal and dogmatic. We're feeling less secure than we normally feel. We're being defensive--and therefore less able to listen than we should be.

Resentment of Opposition

Too often we find it difficult to listen to a point of view different from our own. Instead of listening actively we find ourselves developing counter arguments. A helpful procedure is to pause for a moment and reflect. If we express openly that we are finding it hard to listen, we can usually clear the air and continue the interview in an active listening mode.

Clash of Personalities

When we sense a clash of personalities between ourselves

and the speaker, our best course is to say how we feel--tell of our resentment, hostility, or the threat we are experiencing. Curiously enough, the consensus among psychologists is that the most productive relationship comes with the genuine expression of feelings by the listener. The other party develops a feeling of security when this happens, which promotes open communication.

LISTENING TO OURSELVES

A condition necessary for the practice of active listening is to be able to "listen" to ourselves. When we are aroused, excited, or demanding we are not really able to understand our feelings and attitudes. At that point we cannot listen actively because our sense of our position, values, or needs is disturbed. It is critical to the relationship that we be sure of our own position, our values, and our needs.

We must be able to sense and understand the impact on ourselves of the transaction that is occurring. By telling the speaker of our response, what the meaning of the episode is to us and how it is affecting our feelings, we can clear the air. We are then free to listen actively once more.

This approach is much more helpful than repressing our feelings. Our ability to listen clearly is enhanced when we learn to listen to ourselves and enlist the speaker as a listener to our reactions and feelings in that particular situation.

BIBLIOGRAPHY

Coser, Lewis, THE FUNCTIONS OF SOCIAL CONFLICT, New York: The Free Press, 1956.

In this book the author shows that not all conflict between people or groups is dysfunctional. He points out how conflict properly managed under the right circumstances, can weld people together and build teamwork and effectiveness. The text is keyed to a sociological approach and, although somewhat academic, has much to offer the thoughtful reader. Its content is complementary to active listening as a conflict-reducing technique; the book is listed here for that reason.

Rogers, Carl and Farson, Richard, ACTIVE LISTENING, Chicago: University of Chicago, Industrial Relations Center, 1956.

This monograph gives a straightforward exposition of the requirements for active listening. It tells of the therapeutic value of active listening and points out some of the major problems the listener must overcome to acquire skill as an active listener. A number of the key points of the previous section were drawn from this article.

Hayakawa, S.I., How to Listen to Other People, ch. III in SYMBOLS, STATUS, AND PERSONALITY, New York: Harcourt, Brace & World, 1963.

In this chapter the author presents in simple language recommendations for improving one's listening ability. He treats particularly the issues of empathy, asking the kinds of questions that will elicit the information wanted, and feedback to ensure clearness of communication.

EFFECTIVE LISTENING, New York: Xerox Corporation, 600 Madison Avenue, N.Y. 10022.

A training program in active listening in which a wide variety of spoken statements are presented on tape. The trainees listen to a series of successively more difficult presentations. They try to give correct answers after each tape to a series of questions designed to test the accuracy of their listening. This is an excellent training program for improving listening.

CHAPTER 3

HOW TO WRITE CLEARLY

Prologue

Anyone who wishes to become a good writer should endeavor, before he allows himself to be tempted by the more showy qualities, to be direct, simple, brief, vigorous, and lucid. This general principle may be translated into practical rules in the domain of vocabulary as follows:

Prefer the familiar word to the far-fetched.
Prefer the concrete word to the abstract.
Prefer the single word to the circumlocution.
Prefer the short word to the long.
Prefer the Saxon word to the Romance.

These rules are given roughly in order of merit; the last is also the least.

— H. W. Fowler

How to Write Clearly

A PRACTICAL OUTLINE
FOR IMPROVING YOUR REPORTS, LETTERS, AND MEMOS

REPORT WRITING

NOTES

. . . Since nothing is more important to a society than the language it uses—there would be no society without it—we would be better off if we spoke and wrote with exactness and grace, and if we preserved, rather than destroyed, the value of our language.

— Edwin Newman

I. Definition of exposition.

A. Exposition is the systematic, orderly presentation of ideas, made always with some underlying, shaping purpose, and with such interpretive comment as the reader needs.

B. Points of emphasis; for *reports* especially:

1. Orderliness; order and clarity come from sound planning.

2. Conscious direction of ideas toward an end; logical construction.

3. Explanatory comment to aid reader.

II. Special requirements of the report.

A. The *use* of the report: It is designed for a *specific* purpose required by a *specific* audience.

1. The report is a special form of exposition concerned with the *communication* of practical, useful information;

NOTES

2. For *specific data* called for by the persons requiring the report;

3. In the *form* best qualified to meet *their* requirements.

B. The emphasis is on *ordering* and *directing* the ideas to be presented toward a predetermined objective.

C. In writing with an *absorbing purpose*, one becomes free from fear; involvement makes writing easy.

1. Whatever we are, or can become, comes to us through other people.

2. When we influence others to effective action through our reports, we are influencing our own future positively.

D. The report is time-consuming and expensive when not prepared logically and carefully.

III. Four stages in the development of a report.

A. Preliminary study.

1. Assembling and sorting of material: getting acquainted with details; appraising; determining possibilities and limitations; deciding what it means and what can be done with it.

2. The preliminary period should provide for unhurried, unforced clearing away of uncertainties. It is terminated by an illuminating moment when the subject is clearly seen.

B. Second stage: A period of careful planning.

1. Define the purpose of the report.

2. Keep in mind the recipient's point of view.

3. Design the report: organize, classify, arrange, order the material.

NOTES

a. The design should be logical, practical, and strategic.

b. The end result is a structural plan adapted to the purpose of the report.

C. Stage A is synthetic; stage B is analytic.

D. Third stage: actual writing.

1. Do not confuse writing with criticizing.

2. Do not interrupt the flow of the writing by shifting attention from the subject matter to the form in which it is being written.

3. Attempt to write your report in a single uninterrupted flow, clear to the end; or break the whole up into logical parts that may be handled completely, one part at a time.

E. Stage four: criticism.

IV. Two tests of progress.

A. At the moment of inspiration, make a record of the keynote theme of the report.

1. Draft a single comprehensive sentence, a "thesis" sentence, that sharply focuses the central idea of the report.

EXAMPLES:

Franz Pick is here to tell you the Government is corrupt, Wall Street is rotten, the dollar is doomed—but, friends, gold is forever. (Source: "Mr. Midas," *Esquire*, Jan. 1975.)

After a cautious introduction, computers now play a critical role in ensuring the security and economy of the large networks that distribute electric power. (Source: "Computer Control of Electric-Power Systems," *Scientific American*, Nov. 1974.)

NOTES

2. A thesis sentence defines the limits of the report, sharpens the perception of the objective, and may often suggest points to be included or excluded.

3. Some reports (for example, largely descriptive) may require a bit more than a thesis sentence—but it can be used for the *main* subject.

4. Keep the thesis sentence propped up before you while you write; this sentence is analogous to:

   a. The artist's preliminary sketch.

   b. The lead sentence of the news reporter.

B. Classify, order, arrange—the loose card system.

1. With thesis sentence in front of you jot down on loose cards (3x5) the evident topics you must cover. Continue until you feel that you have exhausted your subject.

2. Test *each* card against your thesis sentence.

   a. Throw out all that do not fit.

   b. Add topics you may have omitted.

   c. You now know what you have to work with.

3. Now classify your cards.

   a. Put things together that belong together.

   b. Organize your cards into unified groupings, marking your major and subordinate points.

   c. Keep statements brief and simple.

4. Arrange groups of cards for most effective order.

   a. This is extremely critical in logical sequencing.

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b. Logical order ensures an easy, natural flow of ideas, so the report will seem to write itself.

c. The principle of arrangement decided upon must be observed consistently. Typical patterns:

(1) Time relationships

(2) Flow of process

(3) From familiar to unfamiliar

(4) From simple to complex

(5) From specifics to generalizations

d. When cards are grouped and in order, number them sequentially to prevent mixing them up.

5. Transfer the ideas on the cards to a sheet of paper—then throw your cards away.

a. Employ an analytical scheme for outlining that will show the relationships, main to subordinate units.

b. Use consistent notations: I; A; 1; a. . . . etc.

c. Keep outlines simple.

6. Summary.

a. Time spent in designing the report is well spent.

b. Discovery and correction of defects before writing is time well spent.

c. Aiming at the specific reader is time well spent: personal prejudices; likes and dislikes; the general strategy of the report.

d. Honest the report must be—not selling of hidden agendas—but it should be persuasively written.

NOTES

I. Why bother to outline; outlining is planning.

A. To help you analyze your ideas about the subject.

B. To give continuity to your story.

C. To prevent omission of important points.

D. To help you decide on the best method for telling your story.

E. To ensure a beginning, middle, and end for your story.

F. To help you tailor your story to your readers' needs.

G. To allow you to concentrate on the writing of the report.

II. Order of outlining.

A. Title.

B. Thesis sentence.

C. Arrange analytical scheme on page so it will instantly convey to the eye the relation of main and subordinate points.

1. Use consistent notation, as:

I.

A.

1.

a.

2. Never indicate the division of a topic into subtopics unless there is more than one subtopic.

D. Keep outlines simple.

E. The time spent in organizing is well spent; the presentation will be strategic if these principles are followed.

NOTES

III. Three aids for introducing the reader to the subject.

A. The subject: *What* are you going to say?

B. The purpose: *Why* are you going to say it?

C. The plan: *How* you can say it most effectively?

D. The introduction must be explicit, giving a clear preliminary view of the matter as a whole.

IV. Examples of outlines:

OPERATING THE AZUSA MK II SYSTEM (WHAT)

(Thesis Sentence: By observing the step-by-step procedures here given, the Azusa MK II System will track missiles with an accuracy of one part in a quarter-million in both range and azimuth.) (WHY)

(PLAN)

I. Importance of operating procedures.

A. Why careful operating procedures are needed.

B. Advantages of using correct procedures.

II. Recommended operating methods.

A. Steps in starting system:

1. Checking temperature stabilization.
2. Checking power levels.
3. Checking optical alinement of antennas.
4. Checking mechanical operation of antennas.
5. Miscellaneous precautions.

B. Routine operation:

1. Items to check at regular intervals.
2. Recording the items checked.
3. Routine lubrication of rotating elements.
4. Routine servicing of air-conditioning system.
5. Other routine operating needs.

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C. Stopping the system:

1. Sequence in cutting electrical power
2. Locking the antennas
3. Standby pressurization of plastic radomes
4. Other procedures

III. How to ensure satisfactory operation results. (CONCLUSION)

A. Correct procedures

B. Accurate records

C. Personnel training

D. Regular maintenance

OUTLINING FOR LETTERS AND MEMOS

I. Outlining by paragraphs for letters and memos.

A. Thank Jim or Jane for hospitality at convention.

1. Dinner and theater.
2. Flowers for Jane; cigars for Jim.

B. Request samples of fabrics discussed at convention.

C. Ask him or her to serve on Hospitality Committee next year.

1. Four national conventions.
2. Three regional meetings.

D. Send copy of article on new dyes.

II. Possible variations, depending upon amount of development of the points desired and the emphasis sought.

(1)

A. Express thanks for convention hospitality.

B. Send invitation to serve on hospitality committee.

C. Mention requested article is in the mail.

D. Request samples of fabrics.

(2)

A. Send article.

B. Request samples of fabrics.

C. Send invitation to serve on Hospitality Committee.

NOTES

D. Express thanks for hospitality.

(3)

A. Express thanks for hospitality.

B. Send article.

C. Request samples of fabrics.

D. Send invitation to serve on Hospitality Committee.

Order (1) aims at a reader who is pleased by social grace; it separates social amenity from technical matters. Order (2) also separates but emphasizes the technical matters, which are placed first. Order (3) places requests last, grouping the two requests to prevent one from being overlooked by separation from the other.

NOTES

I. Relating the paragraph to the overall plan.

A. The paragraph is usually one compound of a complex structure.

1. The paragraph should offer a coherent, unified treatment of a single topic.

2. It must be logically related to the paragraph system of which it is a part.

B. Material included should:

1. Be tailored to the reader's attention span.

2. Be developed according to the difficulty or complexity of the subject matter.

II. The scale of the paragraph must be fitted to the scale of the outline from which it is derived.

EXAMPLE:

Outline: JET-ENGINES VS. PISTON-ENGINE FOR AIRCRAFT.

Thesis Sentence: Jet-engines are more economical for long-haul, large aircraft but cannot compete for short-hop, small-load service.

I. Introduction.

II. Comparison of efficiencies.

A. Jet-engines.

1. Design.

2. Maintenance.

3. Inspection.

B. Piston-engines.

1. Design.

2. Maintenance.

3. Inspection.

III. Comparison of economies.

A. The jet-engine.

1. Aircraft speed.

2. Fuel costs.

NOTES

B. The piston-engine.

1. Aircraft speed.

2. Fuel costs.

IV. Comparison of operating requirements.

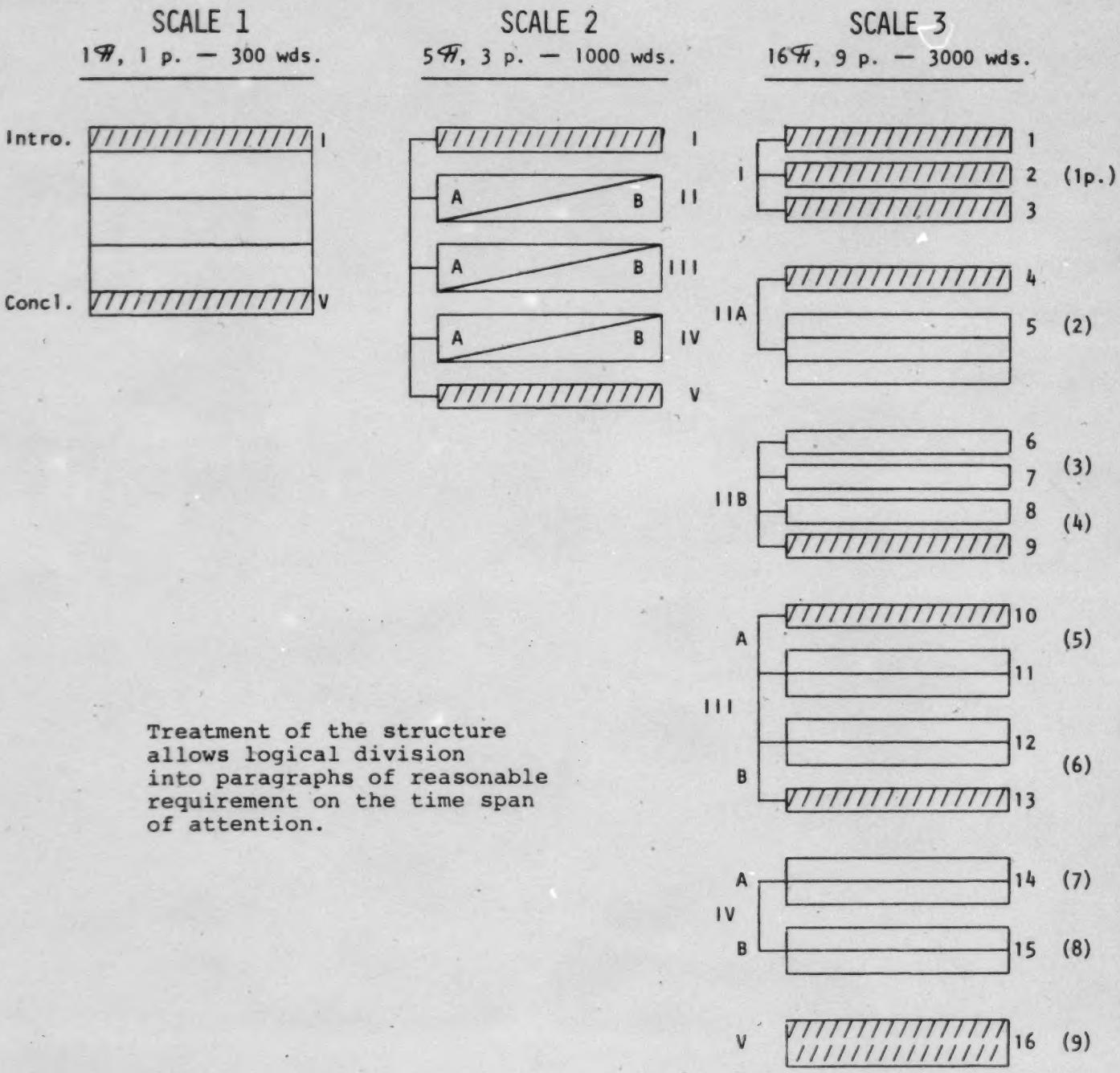
A. Take-off and landing runs.

B. Breakeven costs per passenger mile.

V. Conclusion.

Three possible variations for paragraph treatment:

1. A one-paragraph, 300-word summary report.
2. A five-paragraph, 1000-word report.
3. A fourteen-paragraph, 3000-word report.



Treatment of the structure allows logical division into paragraphs of reasonable requirement on the time span of attention.

Tying Paragraphs Into Bundles

I. Paragraphs may be tied together in any number of ways, for example:

A. They may be in logical series.

B. They may be in contrasting units.

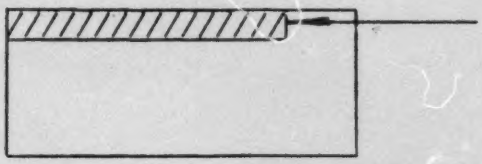
C. They may show similarities.

D. They may be related in cause and effect.

E. They may be in process sequence.

II. The transition points in the report are marked by clear statements:

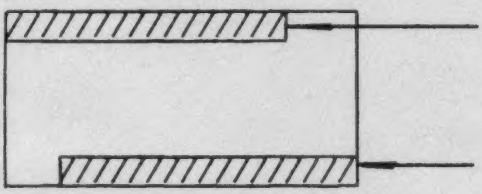
A. A simple, incisive topic sentence.



EXAMPLE: Pacemakers, surgically implanted, have come into routine use to stimulate the heartbeat. But battery-powered devices now used require periodic surgery to change batteries.

Development of a nuclear-powered pacemaker is now technically feasible. (First sentence of second paragraph, giving the transition needed by reflecting back to the opening subject and then pinpointing the new subject in the second paragraph: "nuclear-powered" pacemakers.)

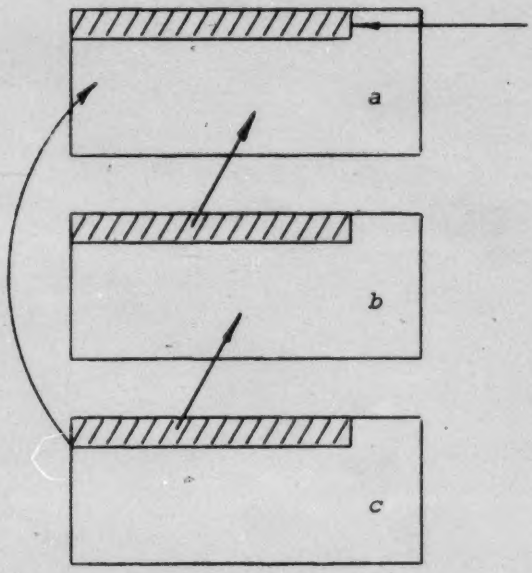
B. The topic may be stressed at the end of the paragraph to round-out the thought and provide closure.



EXAMPLE: Your biggest advantage when you make an outline is the freedom your mind enjoys while you write the article. (Opening topic sentence of the paragraph.)

There is no danger of starting with facts that should be in the middle of your story instead of at the beginning, so you don't have to worry. (Concluding sentence.)

C. Such words as these are helpful in the topic sentence for making transition: this, these, first, second, finally; and for backward reference these: in consequence, as a result of, in spite of.

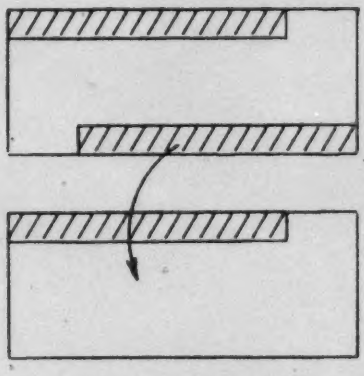


Backward reference as a means of coherence.

Backward reference, tying *c* to both *a* and *b*.

D. Forward reference may sometimes help.

EXAMPLES: it will be desirable next to consider; or, certain facts, which will now be described; or, as will be shown.



Forward reference; should be used sparingly.

E. Sometimes the topic sentence may follow a transitional clause, or even one or two transitional sentences. (This method should be employed only when there is a special need to safeguard the reader against losing continuity.)

EXAMPLE: All the methods considered so far in this report are very expensive. In casting about for a less costly way to cool the circuitry, we decided to try compressed air. Shop air, compressed to 90 psi, does the job at low cost.

F. With a complicated outline, it may sometimes be desirable to employ a full transitional paragraph to ensure that the reader is not confused.

Systems of Headings

I. Headings label the logical sections of the report; they provide "road signs" for the reader.

II. Suggested pattern of headings:

(Caps) MAIN HEADING (centered and underlined)

Left margin → xxx *Text* *(perhaps introductory paragraph)*

xxx first sentence starts

Left margin → Second Order Heading. xxx (main words capitalized)
underlined period (in line with left margin)
(paragraph)

Left margin → Third Order Heading: xxx (main words capitalized)
underlined colon (indented)
(paragraph)

Note: Use no more than three kinds of headings, unless very special circumstances demand it.

III. Headings should follow the plan of the outline.

NOTES

I. The terminal section of the report should summarize and reinforce the central thesis of the report.

A. It must indicate that the purpose of the report has been carried out.

B. It should *not* include any new material.

C. It must give the impression of a completed whole.

1. The introduction poses the problem.

2. The terminal section gives the final answer, providing closure.

3. It should agree with the introduction on the important points.

II. The concluding section is to inform, state a judgment, or advise; reports are supposed to be factual, critical, and advisory.

Note: It is more accurate to state the heading of the terminal section as Limits of Application, Some Common Uses, Some Probable Developments, Work in Prospect, or Merits of the Findings, rather than the colorless catch-all Conclusions, Summary, or the like.

NOTES

I. Only a genius can expect to produce a flawless first draft.

II. Do not be dismayed when faced with a blank sheet of paper: write, write, write.

III. Write the draft of the whole report, or a logical section, completely at one sitting; do not stop to criticize your writing.

A. Concentrate on the ideas exhibited by your outline.

B. Space the sentences in *double or triple spacing* for ease of correction and editing.

C. Write on *one side* of paper only.

NOTES

Two systematic devices for testing the soundness, coherence, and integrity of the report before preparing it for final submittal:

I. Write a synopsis or abstract.

A. Condense the entire report into a single comprehensive paragraph.

B. Check it for conformity with the theme as stated in the thesis sentence.

C. The abstract finds invaluable use in most technical reports: inserted on a separate page between the title page and the body of the report, it gives the reader a succinct, highly simplified statement of what the report is about. (Executives prefer, if not demand, this feature.)

II. Prepare a table of contents.

A. This provides the best way to check on the consistency of the logical design of the report.

B. Phrasing of the headings should be similar to that employed in the report.

C. Set up the table of contents to display the pattern of the report; the table of contents should be congruent with the report.

SUGGESTIONS FOR WRITING THE SHORT-FORM REPORT

NOTES

The short-form report, not exceeding five or six typewritten pages in length, may be prepared either as a somewhat formal, rather impersonal document, or as a more personal, informal memorandum. Its intended purpose and audience will dictate the choice.

I. The formal, impersonal report, aimed at the customer or executive management, should adhere to sound principles of logical organization and coherence.

   A. Save the reader's time by selecting a title that gives as complete an idea of the content as possible.

   B. Use a separate title page, if the report runs to five or six pages. (Placing the report in a folder emphasizes its importance.)

   C. Use the introductory paragraph to give the reader as complete an idea of the whole project as possible.

      1. A summary statement of the findings or recommendations may be desirable for some audiences.

      2. In a very short report of two or three pages, it may be better to place findings and recommendations at the end.

   D. Use only second-order and third-order headings in the short report; first-order headings will usually be found too heavy.

   E. Avoid duplication of statement; keep a logical, coherent order to prevent repetition.

   F. If a concluding comment is needed, select a provocative heading and finish pungently and succinctly.

II. The informal, short-form report may be less stylized and offers room for considerable variety.

   A. A recommended form of starting, suitable

NOTES

for letters or memos, is to indicate title as subject. In letters, center subject between salutation and first sentence; capitalize first letter of important words only (all caps are hard to read). Underline last line only. Use "Subject" on military letters, "In Re" in legal work.

B. The first sentence may well include reference to the authorization: As you requested. . . . . Following your suggestion of March 11. . . .

C. Do not assume that your reader will recall all the circumstances surrounding the problem. Recall them tactfully, stating the problem simply but clearly and adequately.

D. Include in the first paragraph a brief statement of your findings or conclusions.

E. In the memorandum or letter, the form is so simple that the plan need not usually be indicated by headings or subheadings. However, if the treatment is unusual or highly individual, a very simple system of headings may be useful.

NOTES

Except ye utter by the tongue words easy to be understood, how shall it be known what is spoken? For ye shall speak into the air.
I. Corinthians - 14:9

I. Improving readability is based on four propositions:

A. Writing is a combination of art and science. When we write to inform, the scientific aspects gain in importance.

B. Most writing in business, books, and reports is much murkier than it need be.

C. Exposition that follows definite principles of clear writing is most likely to be persuasive and influential —whether in the technical report, letter, or memorandum.

D. We can improve both the force and form of our writing by using these principles. We can test our writing against standards stemming from these principles.

II. As readers, we are opposed to:

A. Words that are used merely for display.

B. Words that don't say what they mean.

C. Words that don't say anything.

III. Getting the facts down accurately in English is only part of the problem— to write effectively we must communicate the facts to our reader.

A. *Writers* enjoy self-expression.

B. *Readers* want careful organization, concreteness, and simplicity so they can picture and apply the ideas.

NOTES

C. As writers we must bridge the gulf between ourselves and our readers.

EXAMPLE:

"In reference to communications requested as samples for the clear-writing clinic, the attached memoranda are herewith submitted." (As we might *write* it.)

"Here are the sample memos you wanted for the clear-writing clinic." (As we would probably *say* it.)

We have dropped from 36 to 17 syllables, and improved the simplicity, force, and clarity of our communication.

IV. Avoid complex jargon.

A. The jargon of a profession is very often unnecessary—it is often used to impress rather than to express.

B. The more difficult the subject, the greater the effort should be to avoid hard words, long sentences, and complex construction.

C. Concentrate on getting your meaning across—don't worry about grammar.

D. We improve our chances of being understood as we keep our writing simple.

NOTES

I. What do people read?

Shakespeare's plays, *Mother Goose, Ivanhoe, Uncle Tom's Cabin, Ben-Hur, Gone With the Wind, How to Win Friends and Influence People.* Each has sold over 2.5 million copies in the U.S.

A. These readings have one thing in common. None, except *Ivanhoe*, requires more than eighth-grade reading skill. *Ivanhoe* tests tenth grade.

B. Steinbeck tests seventh grade; John Gunther tests tenth grade. Both are within the easy-reading range of the average person.

II. We tend to write less simply than readers prefer.

III. The danger line in technical writing is probably at a Fog Index of 12 (twelfth year of schooling).

A. Typical levels of Fog Index:

1. Pulp magazines *(True Confessions)*—6 to 7
2. Women's magazines *(McCall's)*—7 to 8
3. *Reader's Digest*—9
4. *Time* and *Newsweek*—10
5. *Harper's* and *Atlantic*—11 to 12

B. These are *reading* levels, not *intelligence* levels. (The Bible tests 6 to 7.)

NOTES

C. Nearly any subject, no matter how difficult, may be treated at a level *below the danger line* of 12, preferably 8 to 10.

D. The appeal of the comic strip lies in its use of the simple spoken word, bite-sized portions of information, and lots of white space.

E. Write for the expert but write so that the nonexpert can understand.

EXAMPLE: Loren Eiseley, from *The Immense Journey*.

Somewhere in the glacial mists that shroud the past, Nature found a way of speeding the proliferation of brain cells and did it by ruthless elimination of everything not needed to that end. We lost our hairy covering, our jaws and teeth were reduced in size, our sex life was postponed, our infancy became among the most helpless of any of the animals because everything had to wait upon the development of that fast-growing mushroom which had sprung up in our heads.

Now in man, above all creatures, brain is the really important specialization. As Gavin de Beer, Director of the British Museum of Natural History, has suggested, it appears that if infancy is lengthened, there is a correspondingly lengthier retention of embryonic tissues capable of undergoing change. Here, apparently, is a possible means of stepping up brain growth. The anthropoid ape, because of its shorter life cycle and slow brain growth, does not make use of nearly the amount of primitive neuroblasts—the embryonic and migrating nerve cells—possible in the lengthier, and at the same time paradoxically accelerated development of the human child. The clock in the body, in other words, has placed a limit upon the pace at which the ape brain grows—a limit which, as we have seen, the human ancestors in some manner escaped. This is a simplification of a complicated problem, but it hints at the answer to Wallace's question of long ago as to why man shows such a strange, rich mental life, many of whose artistic aspects can have had little direct value measured in the old utilitarian terms of the selection of all qualities in the struggle for existence.

NOTES

I. Readability yardsticks have three desirable characteristics:

A. They are easy to use.

B. They give reliable measurement.

C. They focus the writer's attention on those factors that cause the reader the most difficulty.

NOTE: These are not formulas for writing. They are used to gauge the complexity of the writing—to see if it is designed for the audience.

II. Factors of writing style that lend themselves to measurement:

A. How *long* can a sentence be before it derails the reader?

B. How rich a mixture of long, complex, hard, or abstract words will the reader tolerate?

C. What percentage of active verbs, concrete words, words referring to people are found in writing that has been widely accepted?

D. Factors that can be *counted* objectively:

1. Average sentence length in words.

2. Percentage of simple sentences.

3. Percentage of strong verb forms.

4. Portion of familiar words.

5. Portion of abstract words.

6. Percentage of personal references.

7. Percentage of long words.

III. Table of factors in the writing in magazines.

Group	Total Circulation	Avg. Sentence Length	Per Cent Hard Words	Total	Fog Index
Class (*Harper's*)	1,000,000	20	10	30	12
News (*Time*)	3,000,000	16	10	26	10
Reader's Digest	10,000,000	15	7	22	9
Slicks (*McCall's*)	10,000,000	15	5	20	8
Pulps (*True Confessions*)	10,000,000	13	3	16	6

IV. School-grade levels of reading difficulty, by standard McCall-Crabbs tests (students give 9 out of 10 correct answers for passages they have read).

School Grade	Avg. Sentence Length	Per Cent Hard Words	Total	Fog Index
12	20	9	29	11.6
10	18	6	24	9.6
8	15	5	20	8.0
6	14	3	17	6.8

V. To find the Fog Index of a passage of writing:

A. Jot down the number of words in successive sentences. In a long piece take several samples about 100 words long, spaced evenly through it. Divide the total number of words in the passage by the number of sentences. This gives the average sentence length of the passage.

B. Count the number of words of three syllables or more per 100 words. Don't count words that are: (1) capitalized, (2) combinations of short easy words like "manpower" or "percentage," (3) verb forms made three syllables by adding -ed or -es like "expanded" or "redresses." This gives the percentage of hard words in the passage.

NOTES

NOTES

C. To get the Fog Index, total the two factors just counted and multiply by 0.4.

EXAMPLE: see page 59.

VI. Caution to writers: Keep the Fog Index of your writing below 12 (high school senior). If you write at a level more difficult than this, you are putting your communication under an unnecessary handicap.

Salvage for Salvation

Our civilization is like a giant monster. It devours forests, ores, crops, fish, flesh and fowl, then discards the residue onto the land, into the sea and into the air. As the monster grows, in size and complexity, so does its pollution of the environment.

An arresting report by the National Academy of Sciences puts America on notice that this cannot go on much longer. With the earth growing more crowded, "one person's trash basket is another's living space." Already air pollution presents a health hazard in many communities, and far worse conditions are in prospect. By 1980, the report warns, the nation's plumbing will spew forth enough organic wastes to deprive all American rivers of their oxygen—a condition that annihilates aquatic life.

Over billions of years the earth, in its mysterious upheavals, has extracted metals from the rocks and concentrated them in veins. Every day the monster nibbles at these ores. Housewives toss cans into the garbage and they are dumped beyond retrieval. Yet, the supply of basic metals is limited.

Unhappily, exploring ways to salvage these wastes is of little profit to private researchers. There are few economic incentives for industries to curb their pollution. Only the Government can spur research, devise industrial incentives, determine safe pollution levels. The academy's scientists have proposed a broad range of desirable Federal and regional measures. As anyone who chokes on the air of our cities knows, the time to start on such a program was yesterday.

—*N.Y. Times*, April 3, 1966

3-syllable (or more) words

= 32

$\frac{32}{246} = 13.0$

Words/Sentence

7
23
15
20
14
17
28
21
8
12
8
14
11
13
14
21

16 | 246
15.3

Fog Index

= 15.3
13.0
28.3
.4
11.3 (11th grade)

NOTES

I. <u>The average sentence length is an important criterion of readability</u>.

A. Sentences should be varied in length and structure to save the reader from boredom; some long and complex sentences should be mixed with the short ones.

B. The *average* sentence length should not exceed *twenty* words to ensure ease of readability.

C. In past years sentences were longer: Milton, 60.8 words per sentence; Spenser, 49.8; Defoe, 68; Thomas More, 52; Dryden, 45.3.

1. Today's business sentences average 26 words, geared to the early 1800s, 150 years behind the times.

2. Tom Paine was among the exceptions: *The American Crisis* tests at the seventh grade level.

D. To achieve short sentences, *shift the focus from yourself to the reader.* Approximate the style normally used in face-to-face conversation.

II. <u>Short sentences in themselves are not necessarily enough to improve readability</u>. Fuzzy words and difficult words obscure meanings.

A. Legal language is very often an intellectual maze for the reader.

B. Patent descriptions are examples of complex, difficult writing.

C. The language of accountants is often confusing.

D. We should try to avoid the complex, difficult language too often seen in some kinds of "professional" writing.

NOTES

III. The long sentence may occasionally be employed when it is essentially a list of balanced simple elements.

IV. Suggestions for keeping sentences short.

A. Break up long sentences.

B. Throw out unneeded words.

C. Avoid using words that don't say anything.

D. Avoid saying the same thing twice.

NOTES

I. Style in writing can be improved by using a variety of sentences.

A. *Simple* sentence: Rat bites cat.

A simple sentence does not have to be short. It is merely a sentence with one main clause[1] and no dependent clauses, for example: Those desiring to improve their writing should take every opportunity to practice writing.

B. *Complex* sentence: If the sun comes out,[2] please hang up the wash.[3]

A complex sentence contains one main clause and one or more subordinate clauses.

C. *Compound* sentence: The foot brake failed, and the driver reached frantically for the emergency brake.

A compound sentence contains two or more main clauses and no subordinate clauses. The two or more main actions are coordinate—they have the same weight.

D. *Compound-complex* sentence: In March, when the salmon, which spawn upstream, were beginning their run, we decided to take a fishing trip.

A compound-complex sentence contains two or more main clauses and at least one subordinate clause. It tends to be lengthy, but gives the writer opportunity to add variety.

---

[1] Clause: A clause is a portion of a sentence that contains a subject and a verb, perhaps with modifiers.

[2] Subordinate clause

[3] Main clause

NOTES

II. Three sentence structures for variety.

A. The *loose* sentence, which moves from subject to verb to object: Rat bites cat.

The loose sentence permits the addition of minor ideas almost in the order they occur to the writer: The applicant was interested primarily in fringe benefits, holidays, coffee breaks, job security, and quick advancement. The loose sentence often projects a somewhat conversational word order.

B. The *periodic* sentence: The river, swollen with incessant rain, swept away trees, houses, and finally the dam.

A sentence is periodic when the completion of the main thought is delayed to the end.

C. The *balanced* sentence: This paper is good in some respects; it is poor in others.

A balanced sentence is used to emphasize two ideas similar or opposite in thought. (Do not use this sentence structure unduly; reserve it for purposes of special emphasis.)

III. To emphasize a major thought, place it in a sentence of different structure from those that precede it. Any sentence markedly different from those ahead of it receives stress.

NOTES

I. Give the simple word and the simple form preference.

A. Prefer the simple word to the far-fetched.

B. Prefer the concrete word to the abstract.

C. Prefer the single word to the circum-locution.

D. Prefer the short word to the long.

E. Prefer the short pithy word to the Latin mouthful.

F. Don't say it is the consultant's opinion that this proposal is feasible of implementation: Rather say: We think our plan will work.

G. Be direct, simple, brief, vigorous, and lucid.

II. Complexity is the most often seen fault in technical writing (and other kinds of writing).

A. Good writing reduces the complexity of our words to orderly simplicity.

B. People at the top of their professions are usually those who can put the matter simply.

C. The fog of gobbledygook is often used to camouflage lack of exact knowledge or ability to get positive action.

III. Keep the number of words of three syllables or more low.

NOTES

I. A vocabulary of 30,000 words is a good target to shoot for to become an effective technical writer.

A. Vocabulary may be increased by reading with a dictionary at hand.

B. We need words to think with.

C. But we should *use* the complex abstract word sparingly when we write.

D. *Word Box:* a method of building vocabulary. On 3 x 5 card, write word on left, date on right. Include definition, context, and sentence or phrase showing use.

II. The English language now has over 600,000 words.

A. The average high school graduate knows 10,000 to 15,000 words.

B. In routine conversation, we generally use no more than 3,000 words.

C. For writing effectively, at least 20,000 words make the task easier and provide sufficient flexibility for most purposes.

III. A big word once in a while may be a desirable bit of showmanship.

IV. Big words can sometimes save many little words, if they are known to the reader. (Educators caution against complex, abstract words. They caution against COIK, Clear Only If Known.)

Technical words of special significance to a selected audience are permissible, when used appropriately.

EXAMPLES:

Circle of confusion, resolution, aperture, keystone distortion, impedance, digitizer.

NOTES

V. Try to avoid cliches in writing; these make writing dull and lifeless.

EXAMPLES (to avoid):

Hiding your light under a bushel, conspicuous by its absence, gilding the lily, along these lines, long-felt want, doomed to disappointment, the worse for wear, exception proves the rule, etc.

NOTES

I. Throw unnecessary words out of your writing.

A. Surplus words dull your writing and tire your reader.

B. Eliminate such tired old phrases as: in connection with, with reference to, and with regard to.

C. Avoid pseudolegal language with its complex phrasing and dependent clauses.

D. Do not use words that have similar meaning in one phrase (redundancy)— as, for example, "The tapestry in the museum is unusual and unique."

II. Thinking before writing helps to clarify your language.

A. A clearly and simply stated message saves your reader's time.

B. It also gives a good impression of *you*.

III. True courtesy in writing is based on getting the point of view of, considering the feeling of, and saving the time of the reader.

IV. To help rid yourself of the unnecessary word habit:

A. Before writing or dictating, ask yourself, "What am I trying to say?"

B. After you have written, blue pencil the draft. Cut out each word that is not necessary. Rewrite faulty sentences to make them more concise. As an experienced editor put it, "Tighten your writing."

NOTES

I. Strong, active verbs put life in your writing.

A. Do not smother your writing in passive jargon.

EXAMPLE:

The creating of a new development in electro-optics is the task of the engineer acting in the capacity of researcher. (As it might be written in business jargon.)

Corrected: The research engineer creates a new development in electro-optics.

B. In successful writing strong verbs account for an average of one word in ten.

1. Adjectives should be used sparingly; they tend to take on the flavor of gratuitous opinion.

2. Evaluative opinions should never replace the statement of fact.

3. *Allow your readers to form their own opinions from the facts.*

4. If it is necessary to state your opinion, say: "It is my opinion that . . ." or the equivalent.

II. Limit the use of gerunds[1] and participles[2] to keep your writing active. These are words derived from verbs and usually end in *-tion, -ion, -ing,* and *-ment*. Also be wary of words ending in *-and, -ent, -ance, -ence, -ancy,* and *-ency*. (These endings change verbs into nouns and adjectives.)

[1] A gerund is a verb that is used as a noun.

[2] A participle is a verb that is used as an adjective. There is a difference in meaning, as well as a difference in grammar, between a phrase containing a gerund and one with a participle. Difference: the use of a gerund and of a possessive noun or pronoun emphasizes the act; the use of a participle and an objective noun or pronoun emphasizes the action.

EXAMPLES: — (Gerund) I observed their finding of the cave. (Participle) I observed them finding the cave. (Gerund) I have been concerned with their pilfering since the first of the month. (Participle) I have been concerned with them pilfering since the first of the month.

NOTES

A. Do not throw gerunds and participles away completely. Sometimes they are useful.

EXAMPLE:

The motor reached peak performance with the *reduction* in bearing friction.

B. Weak verbs often go with participles and gerunds. These are usually forms of "to make," "to be," and "to have." Also beware of "seem," "occur," "become," "takes place," and "was noted."

EXAMPLES of submerged forms of verb usage: "make substitution," "have intention," and "become an imposition."

III. Fear of making a positive statement often produces weak writing; behind passivity is fear. If your thinking is straight and you are convinced of what you want to say, say it simply and directly.

NOTES

I. A smoothed-out, spoken version is usually much easier reading than a formal written version.

A. Write like you talk, not write *as* you talk, for three reasons:

1. Good writers have used *like* as a conjunction for centuries.

2. Most people say *like*. If it were stated as *as*, the principle of "write like you talk" would be violated.

3. *As* would give the statement two possible meanings. There is no more important rule in writing than to avoid ambiguity.

B. Avoid the "and-a" type of connective used so often by children.

II. Oral communication with others compels a direct, disciplined approach if we are to hold their attention.

A. Listeners "go away" from vagueness and fog.

B. Listeners often re-direct you toward simplicity and comprehensibility by asking questions when they don't understand.

C. Use directness and simplicity when you write; imagine you are talking to your audience.

NOTES

I. Use terms your readers can visualize.

A. Use words that stand for things that can be seen and touched; short, simple words tend to fall into this class.

1. Meaning is not in the word; it is in the mind of the person who hears or sees it.

2. By using simpler words, of lower levels of abstraction, the chance is improved for transmitting the meaning you intend.

EXAMPLES:

Fuzzy words to be avoided are those like "condition," "situation," "facilities," and "inadequacies."

B. Words that you use in your work may seem concrete, but may be quite abstract to the uninitiated.

EXAMPLES:

From an engineering report: "The alloy was not fabricable." Translated into picturable language: "The alloy cracks when it is cold-rolled."

Consider these two sentences: "In industrial communities the chief motivation for the purchase of curtains is practicality." "In factory towns people buy curtains that wash well."

II. You want your readers not only to understand what you have written, but also to accept it.

A. Picturable words hook your readers' attention. Use concrete picturable nouns and verbs to clarify your writing.

NOTES

I. Write with your readers' experience in mind.

A. Readers bring their own *background* to reading.

B. They tend to interpret the meaning of your writing by referring to their experience (their background).

C. You should project the ideas in your writing to fit with the readers' background.

II. Failure in communication often results from failure to tie in with your readers' experience.

A. Failure to understand that your readers' reaction to your words stems from their unreasoned reaction (conditioning). Your readers' personal experience is the *only* means they have of interpreting your words.

B. Tone of writing is influenced by side signs, such as quality of stationery, well-known name on letterhead, logo.

C. Failure to examine your readers' experience carefully enough often results in some side-sign being overlooked, thus upsets your intended meaning.

D. Readers are self-centered. So are writers—often too much to see how self-centered readers are. Write with your readers' experience in mind to make it easy for them to understand.

III. Summary:

A. Words vary in meaning from person to person. The meaning depends on that person's experience and the images the words recall.

B. Be careful in using highly abstract words. They should be used sparingly and then only when tied to facts.

NOTES

C. In trying to persuade your readers to accept your words, be sure to remember that the meaning they give them will be determined entirely by their past experiences and purposes.

D. You must understand your own purposes and those of your readers. If these are different, you must either change your readers' purpose, or you must show them that there is much in common despite the differences.

E. Don't get lost in details. You must keep your eye on the background as well as on your message. Otherwise you will overlook some side-signal that will undermine the meaning of your words for your readers.

It is not enough to write so you will be understood. You have to write so you can't be misunderstood.

— M. H. Williams

NOTES

I. To build an attractive personal style make full use of variety.

A. Variety that builds your style must come from within you.

1. Three steps toward building a personal writing style:

a. Find yourself.

b. Find the words.

c. Find the cadence that makes of those words *you speaking*.

2. Find yourself by asking occasionally, "Who am I?" and "What am I doing?"

3. Find the words by becoming familiar with them and their variations. Read skilled writers with a dictionary handy. Check meanings and practice using new words until you "own" them.

4. Find your personal cadence by listening with your inner ear to what you write. Reading aloud to a tape recorder and listening to the recording with a friend also helps.

5. Practice rearranging your sentence structure to gain variety in your own style. Test for a smooth rhythm or cadence, putting the emphasis where it belongs to drive home your meaning.

B. Variety in exposition helps to make reading interesting. Remember . . . "art that conceals art" states your goal and the measure of your achievement in writing.

NOTES

I. Do not fall into the trap of trying to *impress* someone with your writing.

   A. Long words intended to display command of a subject tend to build fog and obscure meaning.

   B. Long words are often embedded in complex lengthy sentences—together they make the fog impenetrable for the reader.

   C. Fog does more damage to clearness than does bad grammar.

   D. The way to *impress* your reader is to get your ideas across clearly. Clarity flows from direct, simple language.

   E. Write simply but beware of seeming to "write down" to your reader.

II. Write to express, not to impress. To express:

   A. Make sure you know exactly what you want to say before you write.

   B. Take the pains to put your message in language that is clear, concise, and concrete.

NOTES

BEFORE: Take Time to Think

What do I wish this letter to do?

What are the interests of the person I'm writing to?

What are the facts I must convey?

What is the best point of interest for the first paragraph?

What can I do to show that I am thinking of a person and not just a name on a sheet of notepaper?

AFTER: Check These Points

Have I made my point clearly?

Have I given all the information needed?

Is the letter so worded as to place the emphasis properly?

Have I avoided withered phrases and dead words?

Have I eliminated excess verbiage?

Is the tone of this letter appropriate to my purpose?

Does it carry conviction?

AND —

Pin on your bulletin board or over your desk: "Am I writing the kind of letters people *like* to receive?"

A BIT OF ADVICE

Your aim should be to achieve letters that are considerate, clear, concise, and complete.

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DISTRIBUTION LIST

Navy

4 Dr. Marshall J. Farr, Director
Personnel and Training Research Programs
Office of Naval Research (Code 458)
Arlington, VA 22217

1 ONR Branch Office
495 Summer Street
Boston, MA 02210
ATTN: Dr. James Lester

1 ONR Branch Office
1030 East Green Street
Pasadena, CA 91101
ATTN: Dr. Eugene Gloye

1 ONR Branch Office
536 South Clark Street
Chicago, IL 60605
ATTN: Dr. Charles E. Davis

1 Dr. M.A. Bertin, Scientific Director
Office of Naval Research
Scientific Liaison Group/Tokyo
American Embassy
APO San Francisco 96503

1 Office of Naval Research
Code 200
Arlington, VA 22217

6 Director
Naval Research Laboratory
Code 2627
Washington, DC 20390

1 Technical Director
Navy Personnel Research and
Development Center
San Diego, CA 92152

1 Assistant Deputy Chief of Naval
Personnel for Retention Analysis
and Coordination (Pers 12)
Room 2403, Arlington Annex
Washington, DC 20370

1 LCDR Charles J. Theisen, Jr.,
MSC, USN
4024
Naval Air Development Center
Warminster, PA 18974

1 Dr. Lee Miller
Naval Air Systems Command
AIR-413E
Washington, DC 20361

1 Commanding Officer
U.S. Naval Amphibious School
Coronado, CA 92155

1 Chairman
Behavioral Science Department
Naval Command & Management Division
U.S. Naval Academy
Annapolis, MD 21402

1 Chief of Naval Education & Training
Naval Air Station
Pensacola, FL 32508
ATTN: CAPT Bruce Stone, USN

1 Mr. Arnold I. Rubinstein
Human Resources Program Manager
Naval Material Command (0344)
Room 1044, Crystal Plaza #5
Washington, DC 20360

1 Dr. Jack R. Borsting
U.S. Naval Postgraduate School
Department of Operations Research
Monterey, CA 93940

1 Director, Navy Occupational Task
Analysis Program (NOTAP)
Navy Personnel Program Support
Activity
Building 1304, Bolling AFB
Washington, DC 20336

1 Office of Civilian Manpower Management
Code 64
Washington, DC 20390
ATTN: Dr. Richard J. Niehaus

1 Chief of Naval Reserve
Code 3055
New Orleans, LA 70146

1 Chief of Naval Operations
OP-937P7
Washington, DC 20350
ATTN: CAPT H.J.M. Connery

1 Superintendent
Naval Postgraduate School
Monterey, CA 93940
ATTN: Library (Code 2124)

1 Mr. George N. Graine
Naval Sea Systems Command
SEA 047C12
Washington, DC 20362

1 Chief of Naval Technical Training
Naval Air Station Memphis (75)
Millington, TN 38054
ATTN: Dr. Norman J. Kerr

1 Principal Civilian Advisor
for Education and Training
Naval Training Command, Code 00A
Pensacola, FL 32508
ATTN: Dr. William L. Maloy

1 Director
Training Analysis & Evaluation Group
Code N-00t
Department of the Navy
Orlando, FL 32813
ATTN: Dr. Alfred F. Smode

1 Chief of Naval Training Support
Code N-21
Building 45
Naval Air Station
Pensacola, FL 32508

1 Navy Personnel Research
and Development Center
Code 01
San Diego, CA 92152

5 Navy Personnel Research
and Development Center
Code 02
San Diego, CA 92152
ATTN: A.A. Sjoholm

2 Navy Personnel Research
and Development Center
Code 306
San Diego, CA 92152
ATTN: Dr. J.H. Steinemann

2 Navy Personnel Research
and Development Center
Code 309
San Diego, CA 92152
ATTN: Mr. R.P. Thorpe

1 Navy Personnel Research
and Development Center
San Diego, CA 92152
ATTN: Library

Army

1 Technical Director
U.S. Army Research Institute for the
Behavioral and Social Sciences
1300 Wilson Boulevard
Arlington, VA 22209

1 Armed Forces Staff College
Norfolk, VA 23511
ATTN: Library

1 Commandant
U.S. Army Infantry School
Fort Benning, GA 31905
ATTN: ATSH-DET

1 Deputy Commander
U.S. Army Institute of Administration
Fort Benjamin Harrison, IN 46216
ATTN: EA

1 Dr. Stanley L. Cohen
U.S. Army Research Institute for
the Behavioral and Social Sciences
1300 Wilson Boulevard
Arlington, VA 22209

1 Dr. Ralph Dusek
U.S. Army Research Institute for the Behavioral and Social Sciences
1300 Wilson Boulevard
Arlington, VA 22209

1 HQ USAREUR & 7th Army
ODCSOPS
USAREUR Director of GED
APO New York 09403

1 ARI Field Unit - Leavenworth
Post Office Box 3122
Fort Leavenworth, KS 66027

1 Dr. Milton S. Katz, Chief
Individual Training & Performance Evaluation
U.S. Army Research Institute for the Behavioral and Social Sciences
1300 Wilson Boulevard
Arlington, VA 22209

Air Force

1 Research Branch
AF/DPMYAR
Randolph AFB, TX 78148

1 Dr. G.A. Eckstrand (AFHRL/AST)
Wright-Patterson AFB
Ohio 45433

1 AFHRL/DOJN
Stop #63
Lackland AFB, TX 78236

1 Dr. Martin Rockway (AFHRL/TT)
Lowry AFB
Colorado 80230

1 Dr. Alfred R. Fregly
AFOSR/NL
1400 Wilson Boulevard
Arlington, VA 22209

1 Dr. Sylvia R. Mayer (MCIT)
Headquarters Electronic Systems Division
LG Hanscom Field
Bedford, MA 01730

1 AFHRL/PED
Stop #63
Lackland AFB, TX 78236

Marine Corps

23 Commandant of the Marine Corps (Code R)
Headquarters, United States Marine Corps
Washington, DC 20380

Coast Guard

1 Mr. Joseph J. Cowan, Chief
Psychological Research Branch (G-P-1/62)
U.S. Coast Guard Headquarters
Washington, DC 20590

Other DOD

1 Military Assistant for Human Resources
Office of the Secretary of Defense
Room 3D129, Pentagon
Washington, DC 20301

12 Defense Documentation Center
Cameron Station, Building 5
Alexandria, VA 22314
ATTN: TC

Other Government

1 Dr. Lorraine D. Eyde
Personnel Research and Development Center
U.S. Civil Service Commission
1900 E Street, N.W.
Washington, DC 20415

1 Dr. William Gorham, Director
Personnel Research and Development Center
U.S. Civil Service Commission
1900 E Street, N.W.
Washington, DC 20415

1 U.S. Civil Service Commission
Federal Office Building
Chicago Regional Staff Division
Regional Psychologist
230 South Dearborn Street
Chicago, IL 60604
ATTN: C.S. Winiewicz

Miscellaneous

1 Dr. Gerald V. Barrett
University of Akron
Department of Psychology
Akron, OH 44325

1 Dr. Bernard M. Bass
University of Rochester
Graduate School of Management
Rochester, NY 14627

1 Dr. A. Charnes
BEB 512
University of Texas
Austin, TX 78712

1 Dr. Rene' V. Dawis
University of Minnesota
Department of Psychology
Minneapolis, MN 55455

1 Dr. Robert Dubin
University of California
Graduate School of Administration
Irvine, CA 92664

1 Dr. Marvin D. Dunnette
University of Minnesota
Department of Psychology
Minneapolis, MN 55455

1 ERIC
Processing and Reference Facility
4833 Rugby Avenue
Bethesda, MD 20014

1 Dr. Edwin A. Fleishman
Visiting Professor
University of California
Graduate School of Administration
Irvine, CA 92664

1 Dr. M.D. Havron
Human Sciences Research, Inc.
7710 Old Spring House Road
West Gate Industrial Park
McLean, VA 22101

1 HumRRO Central Division
400 Plaza Building
Pace Boulevard at Fairfield Drive
Pensacola, FL 32505

1 HumRRO/Western Division
27857 Berwick Drive
Carmel, CA 93921
ATTN: Library

1 HumRRO Central Division/Columbus Office
Suite 23, 2601 Cross Country Drive
Columbus, GA 31906

1 HumRRO/ Western Division
27857 Berwick Drive
Carmel, CA 93921
ATTN: Dr. Robert Vineberg

1 Dr. Lawrence B. Johnson
Lawrence Johnson & Associates, Inc.
2001 S Street, N.W., Suite 502
Washington, DC 20009

1 Dr. Ernest J. McCormick
Purdue University
Department of Psychological Sciences
Lafayette, IN 47907

1 Dr. Lyman W. Porter, Dean
University of California
Graduate School of Administration
Irvine, CA 92650

1 Dr. Joseph W. Rigney
University of Southern California
Behavioral Technology Laboratories
3717 South Grand
Los Angeles, CA 90007

1 Dr. George E. Rowland
Rowland and Company, Inc.
P.O. Box 61
Haddonfield, NJ 08033

1 Dr. Benjamin Schneider
University of Maryland
Department of Psychology
College Park, MD 20742

1 Dr. Arthur L. Siegel
Applied Psychological Services
404 East Lancaster Avenue
Wayne, PA 19087

1 Mr. George Wheaton
American Institutes for Research
3301 New Mexico Avenue, N.W.
Washington, DC 20016